

June 27, 2024

Utility Regulation and Competition Office

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CAYMAN ISLANDS
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Dear OfReg –

The Dynamic Spectrum Alliance (DSA)¹ is a global, cross-industry alliance focused on increasing dynamic access to unused radio frequencies. The DSA’s membership spans multinational companies, small- and medium-sized enterprises, academic, research, and other organizations from around the world, all working to create innovative solutions that will increase the utilization of available spectrum to the benefit of consumers and businesses alike.

The DSA appreciates the opportunity to submit the following comments to the Cayman Islands Utility Regulation and Competition Office (OfReg) ICT 2024-1- Consultation Short Range License Exempt Devices (the Consultation). OfReg seeks comments from affected stakeholders, the general public, and other interested parties, regarding proposed modifications to Annex 2 of the section 23(2) notice. Currently, Annex 2 consists of a list of license-exempt Industrial, Scientific, and Medical (ISM) spectrum bands. Of the bands listed, the 2 400 - 2 500 MHz and 5 725 - 5 875 MHz bands are utilized by WAS/RLANs, with Wi-Fi by far being the most common implementation.

OfReg proposes to expand Annex 2 of the section 23(2) notice to include several spectrum bands used by license-exempt Wi-Fi devices, including the 5150-5250 MHz, 5250-5350 MHz, 5470-5725 MHz, and 5925-6425 MHz bands. OfReg also proposes to include 57-71 GHz that can be used for Multi-Gigabit Wireless Systems, more commonly known as WiGig. According to the Consultation, equipment that can be demonstrated to meet the parameters of either the relevant Federal Communications Commission (FCC) or European standard will be able to be type approved upon application to OfReg.

Consistent with this statement, the DSA requests that the footnote on page 6 regarding the 5925-6425 MHz band be modified to conform to the relevant FCC Standard (Title 47 Code of Federal Regulations, Part 15, Section 407). This will allow Caymanian residents, businesses, and visitors to the islands to take full advantage of the current generations of Wi-Fi technology – Wi-Fi 6e and Wi-Fi 7 – both of which are designed to operate in the 6 GHz band. Given the anticipated demand for 6 GHz Wi-Fi equipment,² having access to the 6 GHz band will be critical.

¹ A full list of the DSA members is available on the DSA’s website at www.dynamicspectrumalliance.org/members/.

² According to the Wi-Fi Alliance website, 807.7 million 6 GHz Wi-Fi device shipments are predicted for 2024, up 66 percent from 2023.

Consultation Questions

Question 1: Are there any other Short-Range Devices or Applications which should be considered?

The DSA suggests that OfReg clarify that license-exempt Very Low Power (VLP) devices may operate both indoors and outdoors. The note on page 6 specifically calls for outdoor use for VLP devices, which could lead to confusion. There is little risk that VLP devices operating indoors at the proposed e.i.r.p limits, which are more stringent than those proposed for Low Power Indoor (LPI) devices, will cause harmful interference to incumbent operations.

In general, the DSA advocates for administrations to authorize all three categories of license-exempt devices, namely LPI, VLP, and Standard Power (SP) devices under control of an Automated Frequency Coordination (AFC) system, across the 6 GHz band. Outdoor SP 6 GHz devices are being used primarily by Wireless Internet Service Providers (WISPs) to provide broadband fixed wireless access. WISPs can supplement commercial efforts underway to provide broadband access through the deployment of fiber-based networks and the fixed satellite service. Many enterprise use cases also rely on outdoor SP devices. Indoors, SP operations are being driven by enterprise use cases.

In the Consultation, OfReg indicates that there are no fixed links operating on Grand Cayman in the 5925-6425 MHz range. For this reason, OfReg does not see the need for use of an AFC to enable SP devices to operate. The DSA agrees with OfReg's assessment that use of an AFC, in this instance, would be unnecessary to protect incumbent licensees. However, we recommend that OfReg reconsider the use of an AFC should it consider opening additional frequencies that may be more encumbered for license-exempt use.

Question 2: Are there any other frequency ranges for the identified Applications which should be considered?

The DSA urges OfReg to open the entire 5925-7125 MHz band to license-exempt devices.

Question 3: Do you have any comments on OfReg's proposed approach to combatting interference to FM broadcasters from ultra-low power FM transmitters (FM modulators)?

N/A

Question 4: Do you have any other comments on the proposals?

The footnote on page 6 regarding the 5725-6425 MHz band states, "In the frequency band 5925 – 6425 MHz, the maximum e.i.r.p. is 250 mW for indoor use (Low Power Indoor, LPI) and 25 mW for outdoor use (Very Low Power, VLP)". The DSA notes that the value for LPI devices is inconsistent with the FCC standard cited (Part 15.407). FCC Rule 15.407(a)(3)(i)(5) says, "For an indoor access point operating in the 5.925-7.125 GHz band, the maximum power spectral density must not exceed 5 dBm e.i.r.p. in any 1-megahertz band. In addition, the maximum e.i.r.p. over the frequency band of operation must not exceed 30 dBm." FCC Rule 15.407(a)(3)(i)(8) says, "For client devices operating under the control of an indoor access point in the 5.925-7.125 GHz bands, the maximum power spectral density must not exceed -1 dBm e.i.r.p. in any 1-megahertz band, and the maximum e.i.r.p. over the frequency band of operation must not exceed 24 dBm." The DSA recommends that OfReg explicitly permit VLP devices to operate indoors as well as outdoors.

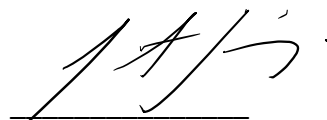
Additionally, the DSA suggests that OfReg should include mention of ‘subordinate devices’ in the footnote. Subordinate devices are defined for purposes of FCC Rule 15.403 as “...a device that operates in the 5.850-5.895 GHz band or in the 5.925-7.125 GHz band under the control of an Indoor Access Point, is supplied power from a wired connection, has an integrated antenna, is not battery powered, does not have a weatherized enclosure, and does not have a direct connection to the internet...”. An example of a relevant subordinate device is a Wi-Fi capable television receiver. With respect to the e.i.r.p. limit of subordinate devices, FCC Rule 15.407(a)(3)(i)(6) states, “For a subordinate device operating under the control of an indoor access point in the 5.925-7.125 GHz band, the maximum power spectral density must not exceed 5 dBm e.i.r.p in any 1-megahertz band, and the maximum e.i.r.p. over the frequency band of operation must not exceed 30 dBm.”

The DSA requests that OfReg modify its proposed footnote as follows: *“In the frequency band 5925 – 6425 MHz, the maximum e.i.r.p. for Low Power Indoor (LPI) access points and (indoor only) subordinate devices operating under control of an LPI access point over the frequency band of operation must not exceed 30 dBm, the maximum e.i.r.p for a LPI client device over the frequency band of operation is 24 dBm, and the maximum e.i.r.p. for Very Low Power (VLP) devices that can operate both indoors and outdoors is 14dBm”.*

Conclusion

The DSA and its members thank OfReg for the opportunity to share our perspectives and are available to discuss these comments and provide any additional information and insights

Respectfully submitted,



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Dynamic Spectrum Alliance